

REMARKS/ARGUMENTS

Applicants submit a copy of a PTO Form 1449 submitted with an Information Disclosure Statement sent to the Patent Office on November 18, 2002, which was received by the Patent Office. The Examiner did not initial the reference cited in this Form 1449. Applicants request the Examiner to review and initial this reference cited in the previously submitted Form 1449 and include the initialed form in the next response.

Applicants amended the paragraph at page 6, line 21 to make a correction that the storage manager 14 performs the operation at block 104. The Specification discloses that the storage manager 4 implements the logic of FIG. 3, including block 104, to manage the client sessions. (Application, pg. 5, lines 25-26).

Applicants amended many claims to correct minor errors, such as punctuation and grammar, and clarify the antecedent basis for certain elements.

The Examiner rejected claims 1-9 as anticipated (35 U.S.C. §102) by Varma (U.S. Patent No. 6,359,863). Applicants traverse.

Amended claim 1 recites a method for managing client transactions requesting access to a shared resource, and requires: logging client transactions in a log file from multiple clients; determining one of the clients transmitting data at a transmission rate less than a threshold transmission rate; and denying subsequent transactions from the determined client access to the shared resource to provide additional space in the log file for new transactions from clients, other than the determined client, requesting access to the resource.

Applicant amended claim 1 to clarify that the clients other than the determined client requesting access to the resource are provided additional space in the log file.

The Examiner cited the Abstract, col. 4, and col. 17, line 1 to col. 18, line 40 of Varma as disclosing the claim requirements of denying subsequent transactions from the determined client access to the shared resource to provide additional space in the log file for new transactions from clients, other than the determined client, requesting access to the resource. (Office Action, pgs. 2-3) Applicants traverse.

The cited Abstract discusses rate allocation within switches in a communications network and that a guaranteed minimum bandwidth is allocated to each communication session. The method estimates the transmission rate of each connection and uses the information. The available bandwidth on the link is calculated, and detects connections that remain idle and withdraw allocations from them to avoid underutilization.

Although the cited Abstract mentions withdrawing allocations to connections that remain idle, nowhere does the cited Abstract disclose the claim requirement of denying subsequent transactions from a determined client transmitting at a rate less than the threshold to provide additional space in the log file for new transactions from clients other than the determined client. Nowhere does the cited Abstract anywhere disclose or mention denying one client access to provide additional space in a log file for other clients. Instead, the cited Abstract mentions withdrawing allocations from underutilized connections.

The cited col. 4 discusses techniques for estimating the transmission rate of each connection and to estimate the link utilization and use this estimate to determine bandwidth available for traffic. Col. 4 further mentions reducing allocations for connections that have not transmitted within a timeout interval. The cited col. 17, line 1 to col. 18, line 40 also mentions how connections on a link may remain idle and estimating the link utilization. The link utilization is used to estimate the bandwidth available for carrying traffic. This cited section also mentions reducing the allocations for connections that have not transmitted within a timeout interval.

Again, although the cited Varma mentions withdrawing allocations to connections that remain idle, nowhere does the cited col. 4 disclose the claim requirement of denying subsequent transactions from the determined client transmitting at a rate less than the threshold to provide additional space in the log file for other clients. Nowhere does the cited col. 4 anywhere disclose or mention denying one client access to provide additional space in a log file for other clients.

Applicants further submit that the Examiner has not cited any part of Varma that discloses a log file, or the claim requirement of denying one client access to provide additional

space in a log file for other clients. The Examiner cited col. 6, line 25 to col. 8, line 67 as disclosing logging client transactions in a log file. (Office Action, pg. 2) Applicants traverse.

The cited cols. 6-8 discuss congestion control and how packets are buffered in a switch. (Col. 8, lines 32-65) However, nowhere do these cited sections anywhere disclose or mention logging client transactions in a log file.

Accordingly, claim 1 is patentable over the cited art because the cited Varma does not disclose all the claim requirements.

Claims 2-9 are patentable over the cited art because they depend from claim 1, which is patentable over the cited art for the reasons discussed above. Moreover, the below discussed dependent claims provide additional grounds of patentability over the cited art.

Amended claim 2 depends from claim 1 and further requires removing all pending transactions of the determined client from the log file. The Examiner cited the above discussed Abstract, col. 4, and col. 17, line 1 to col. 18, line 40 as disclosing the additional requirements of claim 2. (Office Action, pg. 3) Applicants traverse.

The cited Varma mentions how idle allocations are withdrawn from allocations to avoid under-utilization. Although the cited Varma discusses withdrawing bandwidth for idle connections, nowhere does the cited Varma anywhere disclose or mention removing all pending transactions of the determined client from the log file. Instead, the cited Varma withdraws allocations for a connection or to maintain a minimum rate (MCR) for those connections. (Col. 4, lines 57-65) Nowhere does the cited Varma anywhere disclose or mention removing pending transactions of the determined client from a log file when the client is transmitting at a lower threshold. Further, as discussed, the Examiner has not cited any part of Varma disclosing a log file from which client transactions may be removed for client's transmitting at a lower rate. Instead, the cited Varma reduces bandwidth allocations for slow connections, not removing pending transactions from a log file as claimed.

Accordingly, claim 2 provides additional grounds of patentability over the cited art because the cited Varma does not disclose all the claim requirements.

Amended claim 3 depends from claim 1 and requires that the clients submit transactions requesting the resource during a session that the clients initiate, and determining one client session active longer than a threshold time period, wherein the determination of whether the client data transmission rate is less than the threshold transmission rate is made for the determined client whose session is active longer than the threshold time period, and wherein subsequent transactions are denied access to the shared resource for the client having the session active longer than the threshold period of time and having the data transmission rate less than the threshold transmission rate.

The Examiner cited the above discussed Abstract, col. 4, and col. 17, line 1 to col. 18, lien 40 as disclosing the additional requirements of claim 2. (Office Action, pg. 3) Applicants traverse.

The cited Varma mentions how idle connections are withdrawn from allocations to avoid under-utilization. Although the cited Varma discusses withdrawing bandwidth for idle connections, nowhere does the cited Varma anywhere disclose that the determination of whether the client data transmission rate is less than the threshold transmission rate is made for the determined client whose session is active longer than a threshold time period. Instead, the cited Varma mentions determining connections that have not transmitted a cell within a timeout interval, but does not disclose the claim requirement that only connections who have been active for more than a threshold period time are checked.

Accordingly, claim 3 provides additional grounds of patentability over the cited art because the cited Varma does not disclose all the claim requirements.

Claim 5 depends from claim 4 and further requires determining one client that has transmitted a threshold amount of data, wherein the determination and removal from the log file of pending transactions whose access to the resource has completed is made for all the pending transactions of the determined client that has transmitted the threshold amount of data. The Examiner cited col. 9, line 25 to col. 12, lien 67 of Varma as disclosing the requirements of these claims. (Office Action, pg. 3) Applicants traverse.

The cited cols 9-12 discusses how the source of each connection requests a specific amount of bandwidth to be allocated to the connection. This request for bandwidth is carried by RM cells, where each switch reads the RM cell passing through and attempts to allocate the bandwidth requested. When a destination of a connection receives an RM cell, the cell is returned to the source through a reverse path. Further, allocation within a switch is performed according to some fairness function. These columns discuss details for calculating the allocation of bandwidth to a connection.

Although the cited cols. 9-12 discuss requesting and allocating bandwidth for connections in a network, nowhere do the cited cols. 9-12 anywhere disclose that a determination is made of a log file having transmitted a threshold amount of data and then removing from the log file completed pending transactions of the client having transmitted the threshold amount. This determination of a client and then removal from a log file where requests for a resource are placed is nowhere disclosed in the cited Varma.

Accordingly, claim 5 provides additional grounds of patentability over the cited art because the cited Varma does not disclose all the claim requirements.

The Examiner rejected claims 6-9 in view of prior art concerning the storing of transactions in a log file. Applicants submit that the Examiner is referencing art nowhere taught or suggested in the cited Varma. The Examiner has not provided any grounds to explain how Varma may be modified by art concerning storing transactions for storage in a log file using pointers. The cited Varma does not disclose nor concern how to log and process transactions directed to storage, but instead concerns how to allocate bandwidth to connections in a switch network.

If the Examiner maintains this rejection of claims 6-9 in view of log file art separate and not found in Varma, Applicants submit that the Examiner must provide some suggestion or teaching in the art of modifying the switch connection allocation techniques of Varma to use the log file art for transactions to storage. Moreover, even if the Examiner could provide art that

teaches or suggests modifying Varma with transaction logging art, the Examiner would have to change the grounds of rejection of claims 6-9 from anticipation to obviousness.

The Examiner rejected claims 10-13 as obvious (35 U.S.C. §103) over Varma in view of Forecast (U.S. Patent No. 6,230,200). Applicants traverse.

Claims 10-13 are patentable over the cited art because they depend, directly or indirectly, from claim 1, which is patentable over the cited art for the reasons discussed above. Moreover, claim 11 provides additional grounds of patentability over the cited art.

Claim 11 depends from claim 10, which requires that access to the resource is provided through a server and further requires redirecting transactions from the determined client to an additional server providing access to another copy of the resource requested by the client transactions. The Examiner cites col. 6-7 and col. 27, line 34 to col. 28, line 67 of Forecast as teaching the additional requirements of claim 11. (Office Action, pg. 4) Applicants traverse.

The cited cols. 6-7 discuss stream servers as a front end to a cached disk array and controller servers, that are dual redundant computers that allow management of the server resources. For data transfer, the controller servers assign one of the stream servers to the network client requesting multi-media service. To archive data, one of the stream servers receives the file and prestages to the cached disk array and then the file is destaged to a tape device.

Nowhere does the cited cols. 6-7 anywhere disclose that transactions are redirected from a determined client transmitting at a transmission rate less than a threshold to an additional server providing access to another copy of the resource requested by the client transactions.

The cited cols. 27-28 discusses software for the tape backup operations, including components for a backup scheduler and volume manager that run in the active controller server to provide backup operations. Upon receiving a request from a client for backup service, the volume manager accesses a catalog having information identifying where the backed-up files are stored, disk, tape. The cache disk array is an intermediate buffer used during the restore process.

Although the cited cols. 27-28 of Forecast discuss how data may be stored in different locations, nowhere do the cited cols. 6-7 anywhere disclose that transactions are redirected from a determined client transmitting at a transmission rate less than a threshold to an additional server providing access to another copy of the resource requested by the client transactions. Nowhere does the cited Forecast discuss redirecting a client from one server to another if the client has a transmission rate less than a threshold.

Accordingly, claim 11 provides additional grounds of patentability over the cited art because the cited Varma does not disclose all the claim requirements.

Applicants submit that claims 14-39 are patentable over the cited art for the reasons discussed above.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-39 are patentable over the art of record. Applicants have not added any claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0466.

The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

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By: _____

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